

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A microporous composite membrane provided with excellent adhesion to electrodes without deteriorating permeability, comprising a microporous polyolefin membrane and a porous coating layer of a gelable fluoro-resin formed on at least one surface of said microporous polyolefin membrane, said fluoro-resin being a hexafluoropropylene-vinylidene fluoride copolymer, and said coating layer having cylindrical penetrating pores, said cylindrical penetrating pores being fine pores penetrating substantially perpendicularly from openings to a surface in contact with said microporous polyolefin membrane while keeping circular cross sections of substantially the same diameters, having a larger average diameter than the maximum pore diameter of said microporous polyolefin membrane.
2. (original): The microporous composite membrane according to claim 1, wherein said penetrating pores have an average diameter of 0.1-50 μm .
3. (canceled).
4. (previously presented): A battery separator constituted by the microporous composite membrane recited in claim 1 .

5. (previously presented): A battery comprising a separator constituted by the microporous composite membrane recited in claim 1 .

6. (new): A method for producing a microporous composite membrane comprising a porous coating layer for having excellent adhesion to electrodes without deteriorating permeability, comprising the steps of (1) coating at least one surface of a microporous polyolefin membrane with a solution of a gelable fluoro-resin in a mixed solvent of a good solvent for said fluoro-resin and a poor solvent having a dipole moment of 1.8 Debye or less and a higher boiling point than that of said good solvent, such that the resultant porous coating layer of said fluoro-resin has a thickness of 0.4-1.0 μm , said fluoro-resin being a hexafluoropropylene-vinylidene fluoride copolymer, and (2) heating it to evaporate said good solvent earlier than said poor solvent, so that said porous coating layer has cylindrical penetrating pores, which are fine pores penetrating substantially perpendicularly from openings to a surface in contact with said microporous polyolefin membrane while keeping circular cross sections of substantially the same diameters, and have a larger average diameter than the maximum pore diameter of said microporous polyolefin membrane.